

worth's last sonnet, and can it be said that the people of whose mind and feelings it is the expression are not keenly alive to the beautiful in its loftiest and most graceful developments? Can the mind to conceive be wanting in the countryman of Shakespeare? Can the hand be slow to execute in the land where Watt and Arkwright were born?"

Englishmen may not be possessed of a full appreciation of the beautiful in art as well as in nature: no wonder is to be expressed if it be so. They have not had fair play in this respect. Debarred from the contemplation of works of art,—our cathedrals closed to them, pictures and sculpture being luxuries reserved for the rich, drawing not taught, art not recognised at our universities and little attended to in the education of the superior classes, the want alluded to might be reasonably expected. But there is no want of power of appreciation, no lack of ability to excel in the arts, no reason why England should not stand as pre-eminent in respect of taste and design as she does in manufacture. To the School of Design we must look hopefully; and even more so to the Art-Unions, which have already produced an art-loving public and will speedily make it art-knowing. At a threatened interference with the London Art-Union, on the part of certain officers of the Board of Trade, as unwise as it would be unauthorised, we look with more than jealousy and distrust. There is too great a tendency manifest on the part of Government officials to take things into their own hands, and pursue a course contrary to the feeling which strongly prevails in England. To the heads of the Board of Trade we offer a caution in time, not to suffer themselves to be compromised, and an outcry justly raised against them, by the caprice or want of consideration of individuals acting in their name.

To make architecture as an art better understood by the public is much needed, and will not be overlooked in *THE BUILDER*; while, at the same time, architects will be reminded that it is an art, and bid so to practice it.

In a notice of some lectures on ecclesiastical architecture, delivered last week in Beverley, a local paper, to give a convincing proof of the lecturer's ability, says he positively was able to impart an interest to this, which is a *dry subject*. And, in making this remark, he said, simply, what vast numbers of persons believe to be the case. Architecture, a dry subject, indeed! Nothing can be less true. It will be found full of interest by all who enter upon it. Its history is the history of civilization, in brick and stone, and is more entertaining than half the Christmas stories of our age. The history and elements of architecture should be taught in all schools, and we should no more hear of its being a dry subject. We have contemplated, for some time past, a series of elementary papers on architecture, addressed to ladies and our younger friends, and may, perhaps, attempt them before long.

Our technical readers will find no lack of information to meet their wants. Construction will of course form a prominent subject, and we shall keep open eyes on all improvements and new works. The doings of the Institute of Architects, the Architectural Association, and all societies connected with art and science, will be duly recorded and observed, and the new Metropolitan Commissions of Sewers, and other

official bodies, will have, at all events, one watcher, ready to oppose them should they go wrong, but more anxious to aid them in doing right.

We ask consideration and kind feeling for ourselves: we hope to exhibit them in dealing with the works of others.

UNIFORMITY OF MEASURES. ACCOUNT OF THE FRENCH SYSTEM.

SIR,—I believe it is unnecessary to say any thing to your readers upon the utility of a uniform system of weights and measures. Look at us with our many systems of weights and measures, and even some counties, in particular cases, have their particular usages. There results from this, in examining reports from those places, difficulties and embarrassments every day. France is the first country which has given to the world the example, not only of a uniform system of weights and measures, but a system of which all the parts are so united together, that we can find the one by the other, and which have for their common base an unalterable measure; and as I think a description of the metrical system may not be unacceptable to your readers, I propose to myself the pleasure of describing it.

The metrical system, in fact, has for its base a unit of length called *mètre*; and the *mètre* is the ten-millionth part of a fourth of the terrestrial meridian. This measure of the meridian is calculated by astronomical methods, and has for immutability the equilibrium of the universal system of the world, and can only be changed by a revolution of the universe. It is not, then, possible to give a system of weights and measures on a base more sure or more scientific. As to the divisions of a *mètre*, they have been established decimally; thus, a *mètre* and a quarter is written 1 m.25. From whence it follows, that if we multiply 1 *mètre* and $\frac{1}{4}$ by 1 *mètre* $\frac{3}{4}$, 1.8 by 1.4, we shall have for the product 252; and then, separating the two decimals, it becomes 2 m.52; that is to say, 2 *mètres* and 52-hundredths of a *mètre* for the result.

The measure of length being determined, the measure of the surface and that of the volume follow. The square *mètre* becomes the unity for surfaces, the cubical *mètre* the unity for volumes. We shall see, presently, that the measure for certain surfaces and certain volumes has been taken from other units than the square or cubical *mètre*; but the measures so taken are always derived from the decimal parts of a *mètre*. Thus, in determining the unit for weight, they have taken for unity one centimètre (0.01) cube of distilled water, at the temperature of four degrees above the freezing point of the centigrade thermometer; and to this weight they have given the name *gramme*.

In the unit of money they have taken the *franc*, weighing five *grammes*, and composed of nine parts of pure silver and one part of refined copper. The *franc* is divided into *decimes* ($\frac{1}{10}$), and *centimes* ($\frac{1}{100}$).

One sees that the unit of length can be found again from the unit of weight, which is established upon a decimal fraction of the *mètre*: thus we have a constant proof of the metrical system, a length found by astronomy—a weight given by a philosophical fact as invariable as the solar system.

I shall now proceed to give the superior and inferior divisions of the *mètre* and the *gramme*, as established in the French metrical system.

A Myriamètre	contains	10,000	mètres.
A Kilomètre	"	1,000	"
A Hectomètre	"	100	"
A Décamètre	"	10	"
A Décimètre	"	0.1	"
A Centimètre	"	0.01	"
A Millimètre	"	0.001	"
A Kilogramme	"	1,000	grammes.
A Hectogramme	"	100	"
A Décagramme	"	10	"
A Décigramme	"	0.1	"

Such is the base of the metrical system: upon these bases it is very easy to choose other units, which may be convenient for different measures used in commerce, the constructive arts, and other transactions. Thus, for long measure, they count generally by *kilomètres*, representing about one-fourth of a post league,

or by *myriamètres*, representing 2½ post leagues, or two common leagues. For the measures of weight, the *kilogramme* has been taken for the unit, representing about two pounds. 100 *kilogrammes* have been called *quintal*. The old *quintal* was 100 *livres*, and equivalent to about 50 *kilogrammes*; to distinguish the old *quintal* (still used) from the new, the word "*métrique*" is added. The *quintal métrique* is 200 *livres* or 100 *kilogrammes*: 1,000 *kilogrammes* have been called *millier* or *tonneau*. The old ton contained 2,000 *livres*, and represents very nearly the new ton.

For the measurement of land, a square having 10 *mètres* on each side has been taken for the unit, or 100 square *mètres*, and this unit is called *are*. The *centiare* is then a square *mètre*, and the *hectare* (100 *ares*) contains 10,000 square *mètres*. It is a square having 100 *mètres* on each side.

For wood, the unit is the cubical *mètre*, and is called *stère*. For measures of capacity, of grain, and of liquids, the unit is the *décimètre* cube, and is called *litre*.

Thus the French system reposes on the following bases:—

- The *kilomètre* for long measure.
- The *mètre* for the common measures of length.
- The *litre* for measures of capacity, both liquid and dry.
- The *kilogramme* for the measure of weight.
- The *stère* for wood.
- The *tonneau* for marine measure.

Surely it is time that some reform should be made in our own system of weights and measures, and with this object in view, is the reason, Sir, of my troubling you with this article, detailing a system so superior and simple: the importance of the subject, I hope, will be my excuse for occupying your valuable and useful time.—THOMAS RUMBALL, C.E.

THE OLYMPIC THEATRE.

THIS theatre, as we mentioned last week, has been wholly refitted and decorated, in a very creditable manner, by Mr. Hurvitz, of Brydges-street, Strand. The domed ceiling is finished with a blended sky ground, as at Drury Lane, with a cornice at the base finished in white and gold, above which is a balustrade decoration, in colours and gold. The spandrels of the springing of the dome and the soffit of the proscenium are decorated in a scroll design, to accord with the general arrangement. The pilasters of the proscenium have Sienna marble panels, with gold astragals on white marble stiles. The fronts of the upper tier of boxes are decorated in white and gold on very light cobalt ground, having enriched gilt panels, from the centre of which are suspended chandeliers partly in opaz. The lower tier is embellished with bas-reliefs of the seasons, polished as alabaster, of an oval form surrounded by carved frames with wattle-leaf enrichments in gold. The prevailing colour is violet with red borders. The draperies of the boxes are rose colour and buff, arranged to form three festoons, trimmed with gold and silver lace.

The house is lighted chiefly by a new application of the Dockree burner in the centre of the ceiling, surrounded by gilt rays. It consists of two rings of lights: the upper ring 18 inches in diameter, the lower 12 inches, masked with glass, and fitted up by Hart, of Wych-street.

CATHEDRAL AT MANCHESTER.—We are happy to hear from a correspondent, who signs himself "Wilcebe," that the double rood-screen at Manchester, which, as regards the central portion of it, it was reported, was to suffer from what the Dean of Westminster lately called the present mania for removing rood-screens, is not to suffer that mutilation, but that the huge gallery above it is to be removed. This is one of the best alterations the promoters of the restoration could make, and we are glad to know generally that the principle of conservation, for which we contended, is not to be unobserved at Manchester, as it has been at too many other places.